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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/526,287	WILENSKY, GREGG D.
Office Action Summary	Examiner	Art Unit	
	ALEXANDRIA Y. BROMELL	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 November 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-59</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-59</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>01 March 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20080520

DETAILED ACTION

This Office Action is in response to Applicant's amendment of application 10526287, filed 11/12/07. Claims 1-59, which are currently pending, are considered below.

Response to Arguments

Applicant's arguments, filed 11/12/07, with respect to the rejection(s) of claim(s) 1-59 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "Computer-readable medium" of claims 29 and 56 are not defined in the specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 57-59 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be

a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When <u>functional</u> descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming <u>non</u>functional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 24, 26, 29-35, 52, 54, and 57 are rejected under 35 U.S.C. 102(b) as

being anticipated by Stan et al. ("Image Retrieval using a Hierarchy of Clusters," ACM

March 2001, Lecture Notes In Computer Science, Volume 2013, pages 377-386).

With respect to claim 1,Stan teaches combining information pertaining to a

feature common to a plurality of reference objects to produce composite reference

information representing criteria for a search (i.e. type and nature of object features are

used for indexing and retrieval, page 377, lines 13-25), and comparing the composite

reference information to information pertaining to the same feature for each respective

one of a plurality of media objects in a collection of media objects to identify one or

more media objects (i.e. comparing image indexes allows similar images to be

identified, page 380, lines 18-26), wherein a non-Euclidian function is used either to

combine the information pertaining to the feature, or to compare the composite

reference information to information pertaining to the same feature (i.e. non-Euclidean

functions are used to determine features, page 378, lines 25-34).

With respect to claim 2, Stan teaches receiving user input specifying the plurality

of reference objects (i.e. user can query for images, page 378, lines 1-23).

With respect to claim 3, Stan teaches selecting a media object in the collection of

media objects based upon the comparison of the information pertaining to the feature

for each media object and the composite reference information (i.e. a media object may

be selected as a retrieval result for a search, page 385,lines 1-5).

With respect to claim 4, Stan teaches the plurality of reference objects includes one or more objects having a type selected from: audio, image, text, CD, or video (i.e. retrieved objects are images, page 377, lines 13-25).

With respect to claim 5, Stan teaches combining information pertaining to a feature common to a plurality of reference objects includes combining information for different types of objects (i.e. different types of objects can be indexed, page 377, lines 13-25).

With respect to claim 6, Stan teaches combining information pertaining to a feature common to a plurality of reference objects to produce composite reference information includes determining the intersection of the information for the reference objects (i.e. matching of items presents the intersection of similar items, page 378, lines 1-7).

With respect to claim 7, Stan teaches combining information pertaining to a feature common to a plurality of reference objects to produce composite reference information includes determining the union of the information for the reference objects (i.e. image retrieval retrieves similar items, not exact items, which may be the union of objects, page 378, lines 1-7).

With respect to claim 24, Stan teaches combining the feature vectors includes using a Min or Max function (i.e. max function used for similarity values, page 382, lines 1-3).

With respect to claim 26, Stan teaches comparing the composite reference vector to the feature vectors of each of a plurality of media objects includes using a Min or Max function (i.e. max function used for similarity values, page 382, lines 1-3).

With respect to claim 29, Stan teaches combine information pertaining to a feature common to a plurality of reference objects to produce composite reference information representing criteria for a search (i.e. type and nature of object features are used for indexing and retrieval, page 377, lines 13-25), compare the composite reference information to information pertaining to the same feature for each respective one of a plurality of media objects in a collection of media objects to identify one or more media objects (i.e. comparing image indexes allows similar images to be identified, page 380, lines 18-26), wherein a non-Euclidian function is used either to combine the information pertaining to the feature, or to compare the composite reference information to information pertaining to the same feature (i.e. non-Euclidean functions are used to determine features, page 378, lines 25-34).

With respect to claim 30, Stan teaches receive user input specifying the plurality of reference objects (i.e. user can query for images, page 378, lines 1-23).

With respect to claim 31, Stan teaches select a media object in the collection of media objects based upon the comparison of the information pertaining to the feature for each media object and the composite reference information (i.e. a media object may be selected as a retrieval result for a search, page 385, lines 1-5).

With respect to claim 32, Stan teaches the plurality of reference objects includes one or more objects having a type selected from: audio, image, text, CD, or video (i.e. retrieved objects are images, page 377, lines 13-25).

With respect to claim 33, Stan teaches instructions to combine information pertaining to a feature common to a plurality of reference objects include instructions to combine information for different types of objects (i.e. different types of objects can be indexed, page 377, lines 13-25).

With respect to claim 34, Stan teaches instructions to combine information pertaining to a feature common to a plurality of reference objects to produce composite reference information include instructions to determine the intersection of the information for the reference objects (i.e. matching of items presents the intersection of similar items, page 378, lines 1-7).

With respect to claim 35, Stan teaches instructions to combine object information pertaining to a feature common to a plurality of reference objects to produce composite reference information include instructions to determine the union of the information for the reference objects (i.e. image retrieval retrieves similar items, not exact items, which may be the union of objects, page 378, lines 1-7).

With respect to claim 52, Stan teaches combining the feature vectors includes using a Min or Max function (i.e. max function used for similarity values, page 382, lines 1-3).

With respect to claim 54, Stan teaches comparing the composite reference vector to the feature vectors of each of a plurality of media objects includes using a Min or Max function (i.e. max function used for similarity values, page 382, lines 1-3).

With respect to claim 57, Stan teaches means for combining information pertaining to a feature common to a plurality of reference objects to produce composite reference information representing criteria for a search (i.e. type and nature of object features are used for indexing and retrieval, page 377, lines 13-25), means for comparing the composite reference information to information pertaining to the same feature for each respective one of a plurality of media objects in a collection of media objects to identify one or more media objects (i.e. comparing image indexes allows similar images to be identified, page 380, lines 18-26), wherein a non-Euclidian function is used either to combine the information pertaining to the feature, or to compare the composite reference information to information pertaining to the same feature (i.e. non-Euclidean functions are used to determine features, page 378, lines 25-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness or nonobviousness.

Claims 8-23, 25, 27-28, 36-51, 53, 55-56, and 58-59 are rejected under 35

U.S.C. 103(a) as being unpatentable over Stan et al. ("Image Retrieval using a

Hierarchy of Clusters," ACM March 2001, Lecture Notes In Computer Science, Volume

2013, pages 377-386) in view of Barber et al. (US Patent 5751286).

With respect to claim 8, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose combining and comparing

reference information. However, Barber teaches combining information pertaining to a

second feature common to the plurality of reference objects to produce additional

composite reference information representing criteria for the search (i.e. to produce

extra criteria for the search, the system allows the use of a drag and drop feature,

column 5, lines 13-26), and comparing the additional composite reference information to

information pertaining to the second feature for each respective one of the plurality of

media objects in the collection of media objects to identify one or more media objects

(i.e. an image query is run to identify similar media objects using thumbnail identification

information previously stored, and implemented with the drag and drop method, column

5, lines 13-38). Stan and Barber are analogous art because they are from the same field

of endeavor of image query and retrieval. At the time of the invention, it would have

been obvious to one of ordinary skill in the art, having the teachings of Stan and Barber

before him or her, to modify the system of Stan with the teachings of Barber in order to

retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for

doing so would have been to build a visual query based on image content to retrieve

similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious

to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 9, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose weighting. However, Barber

teaches the information pertaining to a feature and the information pertaining to a

second feature is weighted to specify a relative importance of the features (i.e. weights

are used to determine relative importance in queries using composite images, column

10, lines 15-33).

With respect to claim 10, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose feature importance. However,

Barber teaches receiving user input indicating the relative importance of the feature and

the second feature (i.e. the user is able to alter weights to determine relative

importance, column 10, lines 15-33).

With respect to claim 11, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose frequency. However, Barber

teaches the feature and the second feature are each represented by a relative

frequency of occurrence of a feature value (i.e. feature computation is disclosed, giving

data on the most frequently occurring colors in the form of a histogram, column 16, lines

15-22).

With respect to claim 12, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose frequency. However, Barber

teaches information pertaining to the feature and information pertaining to the second

feature includes color information describing the relative frequency of occurrence of

colors in an object (i.e. feature computation is disclosed, providing data on the most

frequently occurring colors using a histogram, column 16, lines 15-22).

With respect to claim 13, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose mapping of features. However,

Barber teaches information pertaining to the feature is mapped to information pertaining

to the second feature (i.e. comparison of appended information from a second feature to

an original feature, column 9, lines 40-61).

With respect to claim 14, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose combining feature information.

However, Barber teaches combining information pertaining to the feature for an

additional reference object with the composite reference information to revise the

composite reference information (i.e. the ability of the system to add features is done

dynamically through drag and drop of images, column 5, lines 13-26). Stan and Barber

are analogous art because they are from the same field of endeavor of image query and

retrieval. At the time of the invention, it would have been obvious to one of ordinary skill

in the art, having the teachings of Stan and Barber before him or her, to modify the

system of Stan with the teachings of Barber in order to retrieve images from a database,

(Barber, column 2, lines 37-42). The motivation for doing so would have been to build a

visual query based on image content to retrieve similar images, (Barber, column 2, lines

64-67). Therefore, it would have been obvious to combine Barber with Stan to obtain

the invention as specified in the instant claims.

With respect to claim 15, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose comparing features. However,

Barber teaches the additional reference is a media object identified by comparing the

composite reference information to information pertaining to the feature for each

respective one of the plurality of media objects (i.e. comparing composite reference

information to features of a plurality of media objects, column 9, lines 47-61).

With respect to claim 16, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose comparing reference

information. However, Barber teaches comparing the revised composite reference

information to information for the feature for each of a second plurality of media objects

in the collection of media objects (i.e. comparing a revised composite reference to a

plurality of media objects, column 9, lines 47-61, and column 10, lines 34-38).

With respect to claim 17, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose comparing all the same

features of objects. However, Barber teaches comparing the composite reference

information to information pertaining to the same feature for each respective one of a

plurality of media objects in a collection of media objects includes assigning a similarity

value (i.e. similarity value is assigned, column 14, lines 44-67) to each respective one of the media objects in the collection of media objects, each similarity value indicating the similarity of the information for the media object and the composite reference information (i.e. correlation of similarity score between media composite reference and media object, column 16, lines 61-67, and column 17, lines 1-14). Stan and Barber are analogous art because they are from the same field of endeavor of image query and retrieval. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Stan and Barber before him or her, to modify the system of Stan with the teachings of Barber in order to retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for doing so would have been to build a visual query based on image content to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 18, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose a specific way to compare similarity values. However, Barber teaches each similarity value of each of the media objects in the collection of media objects is less than or equal to a similarity value calculated for each reference object (i.e. similarity measure equal to or less than a reference, column 17, lines 5-17).

With respect to claim 19, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose ranking the media objects. However, Barber teaches ranking the media objects according to their similarity values

(i.e. images are ranked according to similarity to the query, column 16, lines 65-67,

column 17, lines 1-4), and selecting one or more media objects in the collection of

media objects based upon its rank (i.e. images are output according to their rank, which

allows the user to select according to rank, column 17, lines 2-4).

With respect to claim 20, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose that the second feature is a

feature vector component. However, Barber teaches for each reference and media

object, the information pertaining to the feature and the information pertaining to the

second feature is expressed as a feature vector of components (i.e. corresponding data

representations, in vector form, are used to represent features, column 6, lines 61-67,

column 7, lines 13-25).

With respect to claim 21, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose a composite feature vector.

However, Barber teaches combining information pertaining to a feature and combining

information pertaining to a second feature common to a plurality of reference objects

includes combining the feature vectors of the plurality of reference objects to produce a

composite reference vector (i.e. combination of corresponding data representations by

dragging and dropping images onto an image query window, which is not limited to the

initial image, but can be edited using an edit function, column 7, lines 13-47, column 10,

lines 34-38).

With respect to claim 22, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose metadata. However, Barber

teaches each feature vector includes one or more components representing metadata

associated with the corresponding reference or media object (i.e. vectors are composed

of reference object information, column 6, lines 61-66), and combining information

pertaining to a feature and combining information pertaining to a second feature

common to a plurality of reference objects includes combining components representing

the feature or the second feature according to a first combination function and

combining the one or more components representing metadata associated with each

reference object according to a second combination function (i.e. combining feature

information and representing metadata associated with each object, and an arithmetic

or logical method can be used to combine images, column 10, lines 1-6).

    With respect to claim 23, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose weighting. However, Barber

teaches defining a weighting vector for the feature and the second feature, the

weighting vector specifying a relative importance for the corresponding features (i.e.

weighting feature, column 10, lines 15-33), wherein combining the feature vectors

includes using the weighting vector to specify a relative importance of the features (i.e.

weighting determines importance, Fig 4).

    With respect to claim 25, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose comparing the same features

of objects. However, Barber teaches comparing the composite reference information to

information pertaining to the same feature for each respective one of a plurality of media

objects in a collection of media objects includes comparing the composite reference

vector to a feature vector of each of the plurality of media objects in the collection of media objects (i.e. similarity is determined by comparing information from various reference objects, column 2, lines 14-27).

With respect to claim 27, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose a combination function. However, Barber teaches combining information pertaining to a feature common to a plurality of reference objects includes using a combination function (i.e. image information combined arithmetically or logically, column 10, lines 1-6), comparing the composite reference information to information pertaining to the same feature for each respective one of a plurality of media objects in a collection of media objects includes using a comparison function that is based upon the combination function (i.e. comparing reference information, column 8, lines 37-38). Stan and Barber are analogous art because they are from the same field of endeavor of image query and retrieval. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Stan and Barber before him or her, to modify the system of Stan with the teachings of Barber in order to retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for doing so would have been to build a visual query based on image content to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 28, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose a composite feature vector.

However, Barber teaches combining information pertaining to two or more features common to a plurality of reference objects to produce composite reference information representing criteria for a search (i.e. to produce extra criteria for the search, the system allows the use of a drag and drop feature, column 5, lines 13-26), wherein the information is expressed as a feature vector of components (i.e. corresponding data representations, in vector form, are used to represent features, column 6, lines 61-67, column 7, lines 13-25). Stan also teaches combining includes combining the feature vectors of the plurality of reference objects using a Min or Max function to produce a composite reference vector (i.e. max function used for similarity values, page 382, lines 1-3), and comparing the composite reference information to information pertaining to the same feature for each respective one of a plurality of the media objects in the collection of media objects, wherein comparing includes comparing the composite reference vector to the feature vectors of each media object in the collection of media objects using a Min or Max function and assigning a similarity value to each media object in the collection of media objects, the similarity value indicating the similarity of the feature vector of the media object to the composite reference vector, where the similarity value of each of the media objects in the collection of media objects is less than or equal to a similarity value calculated for each reference object (i.e. max function used for similarity values, page 382, lines 1-3). Stan and Barber are analogous art because they are from the same field of endeavor of image query and retrieval. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Stan and Barber before him or her, to modify the system of Stan with the teachings of Barber

in order to retrieve images from a database, (Barber, column 2, lines 37-42). The

motivation for doing so would have been to build a visual query based on image content

to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have

been obvious to combine Barber with Stan to obtain the invention as specified in the

instant claims.

With respect to claim 36, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose combining and comparing

reference information. However, Barber teaches instructions to combine information

pertaining to a second feature common to the plurality of reference objects to produce

additional composite reference information representing criteria for the search(i.e. to

produce extra criteria for the search, the system allows the use of a drag and drop

feature, column 5, lines 13-26), and instructions to compare the additional composite

reference information to information pertaining to the second feature for each respective

one of the plurality of media objects in the collection of media objects to identify one or

more media objects(i.e. an image query is run to identify similar media objects using

thumbnail identification information previously stored, and implemented with the drag

and drop method, column 5, lines 13-38). Stan and Barber are analogous art because

they are from the same field of endeavor of image query and retrieval. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Stan and Barber before him or her, to modify the system of Stan with the

teachings of Barber in order to retrieve images from a database, (Barber, column 2,

lines 37-42). The motivation for doing so would have been to build a visual query based

on image content to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 37, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose weighting. However, Barber teaches the information pertaining to a feature and the information pertaining to a second feature is weighted to specify a relative importance of the features(i.e. weights are used to determine relative importance in queries using composite images, column 10, lines 15-33).

With respect to claim 38, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose feature importance. However, Barber teaches receive user input indicating the relative importance of the feature and the second feature (i.e. the user is able to alter weights to determine relative importance, column 10, lines 15-33).

With respect to claim 39, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose frequency. However, Barber teaches the feature and the second feature are each represented by a relative frequency of occurrence of a feature value (i.e. feature computation is disclosed, giving data on the most frequently occurring colors in the form of a histogram, column 16, lines 15-22).

With respect to claim 40, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose frequency. However, Barber

teaches information pertaining to the feature and information pertaining to the second

feature includes color information describing the relative frequency of occurrence of

colors in an object(i.e. feature computation is disclosed, providing data on the most

frequently occurring colors using a histogram, column 16, lines 15-22).

      With respect to claim 41, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose mapping of features. However,

Barber teaches information pertaining to the feature is mapped to information pertaining

to the second feature (i.e. comparison of appended information from a second feature to

an original feature, column 9, lines 40-61).

      With respect to claim 42, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose combining feature information.

However, Barber teaches combine information pertaining to the feature for an additional

reference object with the composite reference information to revise the composite

reference information (i.e. the ability of the system to add features is done dynamically

through drag and drop of images, column 5, lines 13-26). Stan and Barber are

analogous art because they are from the same field of endeavor of image query and

retrieval. At the time of the invention, it would have been obvious to one of ordinary skill

in the art, having the teachings of Stan and Barber before him or her, to modify the

system of Stan with the teachings of Barber in order to retrieve images from a database,

(Barber, column 2, lines 37-42). The motivation for doing so would have been to build a

visual query based on image content to retrieve similar images, (Barber, column 2, lines

64-67). Therefore, it would have been obvious to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 43 , Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose comparing features. However, Barber teaches the additional reference is a media object identified by comparing the composite reference information to information pertaining to the feature for each respective one of the plurality of media objects (i.e. comparing composite reference information to features of a plurality of media objects, column 9, lines 47-61).

With respect to claim 44, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose comparing reference information. However, Barber teaches compare the revised composite reference information to information for the feature for each of a second plurality of media objects in the collection of media objects (i.e. comparing a revised composite reference to a plurality of media objects, column 9, lines 47-61, and column 10, lines 34-38).

With respect to claim 45, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose comparing all the same features of objects. However, Barber teaches instructions to compare the composite reference information to information pertaining to the same feature for each respective one of a plurality of media objects in a collection of media objects include instructions to assign a similarity value (i.e. similarity value is assigned, column 14, lines 44-67) to each respective one of the media objects in the collection of media objects, each similarity value indicating the similarity of the information for the media object and the

composite reference information (i.e. correlation of similarity score between media

composite reference and media object, column 16, lines 61-67, and column 17, lines 1-

14). Stan and Barber are analogous art because they are from the same field of

endeavor of image query and retrieval. At the time of the invention, it would have been

obvious to one of ordinary skill in the art, having the teachings of Stan and Barber

before him or her, to modify the system of Stan with the teachings of Barber in order to

retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for

doing so would have been to build a visual query based on image content to retrieve

similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious

to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 46, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose a specific way to compare

similarity values. However, Barber teaches each similarity value of each of the media

objects in the collection of media objects is less than or equal to a similarity value

calculated for each reference object (i.e. similarity measure equal to or less than a

reference, column 17, lines 5-17).

With respect to claim 47, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose ranking the media objects.

However, Barber teaches rank the media objects according to their similarity values (i.e.

images are ranked according to similarity to the query, column 16, lines 65-67, column

17, lines 1-4), and select one or more media objects in the collection of media objects

based upon its rank (i.e. images are output according to their rank, which allows the user to select according to rank, column 17, lines 2-4).

With respect to claim 48, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose that the second feature is a feature vector component. However, Barber teaches for each reference and media object, the information pertaining to the feature and the information pertaining to the second feature is expressed as a feature vector of components (i.e. corresponding data representations, in vector form, are used to represent features, column 6, lines 61-67, column 7, lines 13-25).

With respect to claim 49, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose a composite feature vector. However, Barber teaches instructions to combine information pertaining to a feature and instructions to combine information pertaining to a second feature common to a plurality of reference objects include instructions to combine the feature vectors of the plurality of reference objects to produce a composite reference vector (i.e. combination of corresponding data representations by dragging and dropping images onto an image query window, which is not limited to the initial image, but can be edited using an edit function, column 7, lines 13-47, column 10, lines 34-38).

With respect to claim 50, Stan teaches an image search and retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose metadata. However, Barber teaches each feature vector includes one or more components representing metadata associated with the corresponding reference or media object (i.e. vectors are composed

of reference object information, column 6, lines 61-66), and combining information

pertaining to a feature and combining information pertaining to a second feature

common to a plurality of reference objects includes combining components representing

the feature or the second feature according to a first combination function and

combining the one or more components representing metadata associated with each

reference object according to a second combination function (i.e. combining feature

information and representing metadata associated with each object, and an arithmetic

or logical method can be used to combine images, column 10, lines 1-6).

 With respect to claim 51, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose weighting. However, Barber

teaches define a weighting vector for the feature and the second feature, the weighting

vector specifying a relative importance for the corresponding features (i.e. weighting

feature, column 10, lines 15-33), wherein instructions to combine the feature vectors

include instructions to use the weighting vector to specify a relative importance of the

features (i.e. weighting determines importance, Fig 4).

 With respect to claim 53, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose comparing the same features

of objects. However, Barber teaches instructions to compare the composite reference

information to information pertaining to the same feature for each respective one of a

plurality of media objects in a collection of media objects include instructions to compare

the composite reference vector to a feature vector of each of the plurality of media

objects in the collection of media objects (i.e. similarity is determined by comparing
information from various reference objects, column 2, lines 14-27).

With respect to claim 55, Stan teaches an image search and retrieval system,
(page 378, lines 36-43). Stan does not explicitly disclose a combination function.
However, Barber teaches instructions to combine information pertaining to a feature
common to a plurality of reference objects include instructions to use a combination
function (i.e. image information combined arithmetically or logically, column 10, lines 1-
6), instructions to compare the composite reference information to information
pertaining to the same feature for each respective one of a plurality of media objects in
a collection of media objects include instructions to use a comparison function that is
based on the combination function (i.e. comparing reference information, column 8,
lines 37-38). Stan and Barber are analogous art because they are from the same field of
endeavor of image query and retrieval. At the time of the invention, it would have been
obvious to one of ordinary skill in the art, having the teachings of Stan and Barber
before him or her, to modify the system of Stan with the teachings of Barber in order to
retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for
doing so would have been to build a visual query based on image content to retrieve
similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious
to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 56, Stan teaches an image search and retrieval system,
(page 378, lines 36-43). Stan does not explicitly disclose a composite feature vector.
However, Barber teaches combining information pertaining to two or more features

common to a plurality of reference objects to produce composite reference information representing criteria for a search (i.e. to produce extra criteria for the search, the system allows the use of a drag and drop feature, column 5, lines 13-26), wherein the information is expressed as a feature vector of components (i.e. corresponding data representations, in vector form, are used to represent features, column 6, lines 61-67, column 7, lines 13-25). Stan also teaches combining includes combining the feature vectors of the plurality of reference objects using a Min or Max function to produce a composite reference vector (i.e. max function used for similarity values, page 382, lines 1-3), and comparing the composite reference information to information pertaining to the same feature for each respective one of a plurality of the media objects in the collection of media objects, wherein comparing includes comparing the composite reference vector to the feature vectors of each media object in the collection of media objects using a Min or Max function and assigning a similarity value to each media object in the collection of media objects, the similarity value indicating the similarity of the feature vector of the media object to the composite reference vector, where the similarity value of each of the media objects in the collection of media objects is less than or equal to a similarity value calculated for each reference object (i.e. max function used for similarity values, page 382, lines 1-3). Stan and Barber are analogous art because they are from the same field of endeavor of image query and retrieval. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Stan and Barber before him or her, to modify the system of Stan with the teachings of Barber in order to retrieve images from a database, (Barber, column 2, lines 37-42). The

motivation for doing so would have been to build a visual query based on image content

to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have

been obvious to combine Barber with Stan to obtain the invention as specified in the

instant claims.

With respect to claim 58, Stan teaches Stan teaches an image search and

retrieval system, (page 378, lines 36-43). Stan does not explicitly disclose comparing all

the same features of objects. However, Barber teaches means for comparing the

composite reference information to information pertaining to the same feature for each

respective one of a plurality of media objects in the collection of media objects includes

means for assigning a similarity value (i.e. similarity value is assigned, column 14, lines

44-67) to each respective one of the media objects in the collection of media objects,

each similarity value indicating the similarity of the information for the media object and

the composite reference information, wherein the similarity value of each of the media

objects in the collection of media objects is less than or equal to a similarity value

calculated for each reference object (i.e. correlation of similarity score between media

composite reference and media object, column 16, lines 61-67, and column 17, lines 1-

14). Stan and Barber are analogous art because they are from the same field of

endeavor of image query and retrieval. At the time of the invention, it would have been

obvious to one of ordinary skill in the art, having the teachings of Stan and Barber

before him or her, to modify the system of Stan with the teachings of Barber in order to

retrieve images from a database, (Barber, column 2, lines 37-42). The motivation for

doing so would have been to build a visual query based on image content to retrieve

similar images, (Barber, column 2, lines 64-67). Therefore, it would have been obvious

to combine Barber with Stan to obtain the invention as specified in the instant claims.

With respect to claim 59, Stan teaches an image search and retrieval system,

(page 378, lines 36-43). Stan does not explicitly disclose a composite feature vector.

However, Barber teaches means for combining information pertaining to two or more

features common to a plurality of reference objects to produce composite reference

information representing criteria for a search (i.e. to produce extra criteria for the

search, the system allows the use of a drag and drop feature, column 5, lines 13-26),

wherein the information is expressed as a feature vector of components and means for

combining includes means for combining the feature vectors of the plurality of reference

objects to produce a composite reference vector (i.e. corresponding data

representations, in vector form, are used to represent features, column 6, lines 61-67,

column 7, lines 13-25), and means for comparing the composite reference information

to information pertaining to the same two or more features for each respective one of a

plurality of media objects in a collection of media objects, wherein the means for

comparing includes means for comparing the composite reference vector to the feature

vectors of each of the media objects in the collection of media objects (i.e. to produce

extra criteria for the search, the system allows the use of a drag and drop feature,

column 5, lines 13-26). Stan and Barber are analogous art because they are from the

same field of endeavor of image query and retrieval. At the time of the invention, it

would have been obvious to one of ordinary skill in the art, having the teachings of Stan

and Barber before him or her, to modify the system of Stan with the teachings of Barber

in order to retrieve images from a database, (Barber, column 2, lines 37-42). The

motivation for doing so would have been to build a visual query based on image content

to retrieve similar images, (Barber, column 2, lines 64-67). Therefore, it would have

been obvious to combine Barber with Stan to obtain the invention as specified in the

instant claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ALEXANDRIA Y. BROMELL whose telephone number

is (571)270-3034. The examiner can normally be reached on M-R 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John R. Cottingham/   Alexandria Y Bromell
Supervisory Patent Examiner, Art Unit 2167   Examiner
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AYB
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